

## Recommended Corrective Action Alternatives

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### 6.1 Corrective Action for Soil

As discussed in Section 5.1, no further action is necessary to remediate the soil.

### 6.2 Corrective Action for Groundwater

The corrective action alternative recommended for the contaminants in the groundwater within bedrock fractures is MNA. The preferred corrective action alternative was selected for the following reasons:

- Natural attenuation, implementing a groundwater-monitoring program, and obtaining a deed restriction are proven technologies.
- Preliminary estimates indicate natural attenuation is currently degrading the contaminants.
- The contaminated groundwater does not meet the recovery rate requirement for designation as a drinking water source per the California State Water Quality Resources Control Board Resolution 88-63.
- Site work or construction is not necessary because existing groundwater monitoring wells are adequately located for delineation of contaminated groundwater.
- Site maintenance is not required because no active treatment system would be operated.
- No potential exists for mounding and resulting contamination spread because no liquids are injected into the groundwater.
- Groundwater monitoring provides flexibility because, should substantial migration or contaminant concentration increases occur, a decision could be made in the future to implement a more active remedial technology.
- Contamination occurs primarily within the fractured bedrock layer.
- Based on hydraulic conductivity testing, the groundwater is estimated to be moving at a seepage velocity of approximately 0.029 ft/day (between wells MW-POLA- 121 and PL-MW- 104).
- Conservative seepage velocity estimates indicate that contamination would take 13 years to move the 140 ft from well MW-POLA- 121 to well PL-MW- 104 (not including natural attenuation or adsorption).
- While a planned wetland restoration project on the nearby BRAC property (Main Airfield) is anticipated to raise groundwater levels, this is not anticipated to have any influence on the contamination in bedrock fractures at the POL Hill AST-2 area because of the elevation difference and lack of hydraulic connectivity. Similarly, there is no

anticipated off-site groundwater impacts from the POL Hill AST-2 area since no contaminant migration is occurring.

The preferred corrective action alternative was evaluated on its technical merits, focusing on effectiveness, implementability, and cost. This alternative meets all applicable state and federal regulations and would meet the corrective action objectives for mitigating the potential for inadvertent receptor exposure. Furthermore, this remedial alternative was tentatively agreed upon pending additional data at the meeting held between the Army and San Francisco RWQCB personnel on May 2, 2001.

To evaluate the natural attenuation alternative, groundwater-monitoring data was collected and analyzed for TPH, BTEX, lead, and PNAs. Additionally, in March/April 1998, September/October 1998, September 2001, February 2002, and August 2002 samples were analyzed for hydrogeochemical indicators of biodegradation; methane, ferrous iron, oxidation/reduction potential, and dissolved oxygen (DO). This information is provided in Appendices H and I.

An interim groundwater-monitoring program for the POL Hill AST-2 Area is proposed in the following section of this report (Section 7). Furthermore, a strategy for determining suitability for site closure is also proposed. A meeting will be held with regulators to discuss the groundwater-monitoring results and the implications for ongoing monitoring efforts or site closure.